



Talk: Epistemological Narrative Framework: A narrative based approach for designing secondary school science content

Speaker:

Sachin Dutt, Industrial Design Centre, IIT Bombay

Date / Time:

December 16, 2011 - 3:30pm - 5:00pm

Venue:

Conference room, Azim Premji Foundation Office, Sarjapur road

Abstract:

In recent years, use of stories in general science education at secondary level has gained impetus. Arthur Stinner, Yannis Hadzigeorgiou and Isabelle have shown how historical information can be used to create narratives as a supplement for science learning. The philosophical foundation supporting the use of historical information for science education was first proposed by Thomas Kuhn in his book "The structure of scientific revolutions". Kuhn's argument was that a science textbook only publishes the final outcome or conclusion of a discovery, however, the essence of scientific tradition exists in the series of events that lead to the formulation of a theory. The series of events go beyond the work of an individual scientist. Scientific tradition exists in the process by which a concept evolves over time.

We believe that the process of development of scientific concepts that lead to advancement of science is of a structured nature, a structure that resembles with that of a particular type of Narrative schema. Understanding the epistemological relationship between narrative structures and knowledge acquisition/creation event can help in developing Narratives that capture the essence of science which exists in the process that lead to a discovery or invention. Based upon the understanding of this relationship, we develop the Epistemological Narrative Framework to assist in the design of Narratives for secondary school science. The framework is a tool to assist instructors design stories in collaboration with students. The student and instructor learn together in the act of designing and presenting a discovery story.

A Note on the Speaker:

Sachin Dutt is a PhD student at the Industrial Design Centre, IIT Bombay. He has been working in the area of designing stories for educational purposes for the last 7 years. He has conducted

workshops with students and teachers on learning scientific concepts by designing discovery related stories.